

REROOF PERMIT APPLICATION PROCEDURES

California Energy Code Section 110.8(i)

Beginning July 1, 2014 the 2013 California Energy Efficiency Standards for residential and non-residential will go into effect and require all re-roofing to meet the Cool Roof requirements of the updated Title 24 Energy Standards.

Applies to:

- Low sloped roofs (2:12 slope or less)
- Steep sloped roofs (greater than 2:12 slope)
- Residential reroofs where more than 50% of the roof is being replaced.
- Non-residential reroofs where more than 50% or more than 2000 square feet, whichever is less, of the roof is being replaced, recovered, or recoated.

Rating and Labeling

Roofing products that are used for compliance with the standards are required to be tested and labeled by the Cool Roof Rating Council (CRRC) per §10-113 and that liquid applied products meet minimum standards for performance and durability per §118(i)4. The CRRC is the supervisory entity responsible for certifying cool roof products. Testing procedures include tests for both solar reflectance and thermal emittance. The roofing products manufacturer must have its roofing product tested for solar reflectance and thermal emittance, and be labeled according to CRRC procedures. Figure 8-1 provides an example of an approved CRRC product label.

	<u>Initial</u>	<u>Weathered</u>	
	Solar Reflectance	0.00	Pending
	Thermal Emittance	0.00	Pending
	Rated Product ID Number	-----	
	Licensed Seller ID Number	-----	
	Classification	Production Line	
<p>Cool Roof Rating Council ratings are determined for a fixed set of conditions, and may not be appropriate for determining seasonal energy performance. The actual effect of solar reflectance and thermal emittance on building performance may vary.</p> <p>Manufacturer of product stipulates that these ratings were determined in accordance with the applicable Cool Roof Rating Council procedures.</p>			

Figure 8-1-CRRC Product Label and Information

COOL ROOF PRODUCTS SHALL MEET THE FOLLOWING REQUIREMENTS AS NOTED BELOW:

CALIFORNIA ENERGY CODE

- **SECTION 141.0(b)2B ROOF REPLACEMENTS - NONRESIDENTIAL, HIGH-RISE RESIDENTIAL, HOTELS / MOTELS**
- **SECTION 150.2(b)1H ROOF REPLACEMENTS - LOW-RISE SINGLE FAMILY & MULTIFAMILY RESIDENTIAL**

STRUCTURE	LOW-SLOPE < 2/12	STEEP SLOPE	SOLAR REFLECTANCE (MINIMUM)	THERMAL EMITTANCE (MINIMUM)	SRI	NOTES	EXCEPTIONS
NONRESIDENTIAL	X		0.63	0.75	75	1	
NONRESIDENTIAL		X	0.20	0.75	16	1	
HIGH-RISE RESIDENTIAL	X		0.55	0.75	64	1	
HIGH-RISE RESIDENTIAL		X	0.20	0.75	16	1	
HOTELS / MOTELS	X		0.55	0.75	64	1	
HOTELS / MOTELS		X	0.20	0.75	16	1	
LOW-RISE RESIDENTIAL	X		0.63	0.75	75		f
LOW-RISE RESIDENTIAL		X	0.20	0.75	16		a-b-c-d-e-f-g

NOTES:

1. If the existing roofing is removed to the roof deck, the exposed area **must be insulated to R-14** value.
 Exception 1: The existing roof is insulated with at least R-7 insulation, or it has a U-factor lower than 0.089.
 Exception 2: If the AC units are not to be lifted, the insulation may be limited to provide a minimum 8" exposure at the base flashing.
 Exception 3: The insulation may be less than R-14 if the wall base flashing would be reduced to less than 8" by the installation of the R-14, and the following apply:
 - The walls are furnished with siding other than roofing; and
 - The exterior wall siding would have to be removed; and
 - Replaced roof area ÷ linear wall dimension ≤ 25.

EXCEPTIONS: (Cool Roof not required)

- a. Air-space of 1.0 inch airspace is provided between the top of the roof deck to the bottom of the roofing product; **or**
- b. The installed roofing product has a profile ratio of rise to width of 1 to 5 for 50% or greater of the width of the roofing product; **or**
- c. Existing ducts in the attic are insulated and sealed according to Section 151(f)10, **HERS rating required with CF-3R Form; or**
- d. R-38 attic insulation (**Insulation Certificate required**); **or**
- e. Building has a radiant barrier in the attic meeting the requirements of Section 151(f) 2. **or**
- f. Building has no ducts in the attic. **or**
- g. R-4 insulation installed on the deck above vented attic.

Roof areas covered by building integrated photovoltaic panels and building integrated solar thermal panels and existing roof areas that have thermal mass over the roof membrane with a weight of at least 25 lb/ft² are exempted from Cool Roof Requirements for both Residential and Non-Residential.

2013 CEC SECTION 110.8(i)

ROOFING PRODUCTS SOLAR REFLECTANCE AND THERMAL EMITTANCE

1. In order to meet the requirements of Sections 140.1, 140.2, 140.3(a)1, 141.0(b)2B, 150.1(c)11, 150.2(b)1H, or 150.2(b)2, a roofing product's thermal emittance and 3-year aged solar reflectance shall be certified and labeled according to Section 10-113. Exception: Roofing products that are not certified shall assume the following default values;
 - Asphalt shingles
Aged reflectance: 0.08
Thermal Emittance: 0.75
 - Other roofing products:
Aged reflectance: 0.10
Thermal Emittance: 0.75
2. If CRRC testing for 3-year aged reflectance is not available for any roofing product, the 3-year aged value shall be derived from the CRRC initial value using the equation: **$\rho_{\text{aged}} = [0.2 + \beta[\rho_{\text{initial}} - 0.2]]$ where ρ_{initial} = the initial solar reflectance, and soiling resistance β is 0.65 for Field-Applied coatings and 0.70 for Others.**
3. Solar Reflectance Index (SRI), calculated as specified by ASTM E 1980-01, may be used as an alternative to thermal emittance and solar reflectance.
4. Liquid applied roof coatings applied to low-sloped roofs as the top surface shall:
 - A. Be applied to the entire roof surface.
 - B. Meet performance requirement in Table 110-B or the minimum performance requirements of ASTM C 836, D 3468, D 6083 or D 6694.
 - C. Aluminum-pigmented asphalt roof coatings shall meet the requirements of ASTM D 2824 or ASTM D6848 and be installed as specified by ASTM D 3805.
 - D. Cement-based roof coatings shall contain a minimum of 20 percent cement and shall meet the requirements of ASTM C 1583, ASTM D 822 and ASTM D 5870.

Values for Solar Reflectance and Thermal Emittance can be found on the Cool Roof Rating Council Website at www.coolroofs.org

INSTRUCTIONS TO CONTRACTORS/APPLICANTS:

In order for Reroof Permit applications to be processed, a signed and completed permit affidavit along with the completed Reroof Permit Application forms shall be provided to the Building and Safety Services Permit Center. ***(permit application forms can be found under the “Applications, Forms & Worksheets” link)***

The Attic Ventilation Worksheet shall be completed by the contractor/applicant to determine the number of vents required to comply with minimum Building Code requirements. (see attached) Required attic ventilation shall be provided for all reroof projects as determined from the Attic Ventilation Worksheet. All new venting to be added shall be clearly indicated on the worksheet form.

- ***FOR LARGE STRUCTURES OR STRUCTURES WITH COMPLEX ROOF AND ATTIC AREAS, A ROOF PLAN SHALL BE PROVIDED SHOWING LOCATION OF EXISTING AND PROPOSED ATTIC VENTS.***

When Reroof projects are subject to the Cool Roof requirements, all contractors and permit applicants shall complete the appropriate sections of the “Re-Roof Permit Application” form. If the proposed Reroof qualifies under one of the exceptions, the following must be provided:

- The exception declared shall be specified in the “Comments” section of the Application Form.
- A signed CF-3R form from a certified HERS rater performing a duct leakage test will be required if declaring ducts in attic are insulated and sealed.
- Insulation Certificate signed by a licensed Insulation Contractor to verify minimum R-38 ceiling insulation exists.

All appropriate documentation to verify roofing products meet the requirements above shall be submitted at the time of application for a Reroof Permit.

******INCOMPLETE APPLICATION FORMS WILL DELAY THE PROCESSING OF PERMIT***
REQUESTS, AND PERMIT ISSUANCE AND INSPECTIONS.***